The MAC Flyer

NOVEMBER 1975

WEIGHT AND BALANCE CLEARANCE FORM F

TRANSPORT

(USE REVERSE FOR TACTICAL MISSIONS)

Cross Reference
RAF Form 2870
RCAF Form F. 115 C
50M 5-51 (6797)

FOR USE IN
T. O. 1-1B-40 &
AN 01-1B-40

NOTE.—THIS TRANSPORT CLEARANCE FORM HAS RESULTED FROM TRIPARTITE AGREEMENT AND NO FURTHER CHANGES MAY BE MADE TO IT WITHOUT PRIOR CONSIDERATION BY TRIPARTITE AUTHORITIES.

MISSION NO. ET 75 | AIRPLANE TYPE C141 | FROM RDM | HOME STATION KSBD

CONDITION	LIMITATIONS TAKEOFF	LANDING	LANDING WING FUEL
[5] ALLOWABLE GROSS WEIGHT	323100	257500	204620
TOTAL AIRPLANE WEIGHT (Ref. 11)	278929		
OPERATING WEIGHT PLUS ESTIMATED LANDING FUEL WEIGHT		178879	
OPERATING WEIGHT (Ref. 8)			138829
ALLOWABLE LOAD (Ref. 12) (use SMALLEST figure)	44171	78671	65741
[3] PERMISSIBLE C. G. TAKEOFF	FROM 23.8 %	TO (% M.A.C. or IN.) 33.4 %	
[4] PERMISSIBLE C. G. LANDING	FROM 17.6 %	TO (% M.A.C. or IN.) 33.4 %	
[5] LANDING FUEL WEIGHT	40000 / 3874		

ITEM			
1	BASIC AIRPLANE (From Chart C)	138101	125417
2	OIL (18.4 Gal.)	138	16
3	CREW (No. (9) 7/B 2/E	1800	179
4	CREW'S BAGGAGE "D"	450	23
5	STEWARD'S EQUIPMENT C-3	167	8
6	EMERGENCY EQUIPMENT Mod	1562	139
7	EXTRA EQUIPMENT MMCR 55-4	1311	84
8	OPERATING WEIGHT	138829	128807
9	TAKEOFF FUEL (Gal.)	140100	133111
10	WATER INJ. FLUID (Gal.)		
11	TOTAL AIRPLANE WEIGHT	278929	261918

ZFW = 174493
ZFM = 16313
ZF %MAC = 28.6%

REMARKS

Ref. #7 includes Three triple seats plus Six MB-2 Tiedown chains & Devices

[1] Enter constant used.
[2] Enter values from current applicable T. O.
[3] Applicable to gross weight (Ref. 15).
[4] Applicable to gross weight (Ref. 18).
[5] Ref. 9 minus Ref. 17.

DISTRIBUTION OF ALLOWABLE LOAD (PAYLOAD)

COMPT	UPPER COMPARTMENTS PASSENGERS NO.	PASSENGERS WEIGHT	CARGO	COMPT or STA	LOWER COMPARTMENTS PASSENGERS NO.	PASSENGERS WEIGHT	CARGO		
A									
B				D	4	640	760	14000	73
C									
D				710			9000	94000	639
E									
F				891			5000	50000	446
G									
H				981			5000	50000	491
I									
J				1071			5000	50000	536
K									
L				1161			5000	50000	581
M									
N							5000	50000	626
O									
P				1463				6414	334
FWD	BELLY								
AFT	BELLY								
SUBTOTALS →					4	640	35024	356644	34826

TOTAL FREIGHT N/A
TOTAL MAIL N/A
COMPUTER PLATE NUMBER Chart E & MAC F

CORRECTIONS (Ref. 14)

COMPT	ITEM	CHANGES (+ or −) WEIGHT	MOMENT/1000
TOTAL WEIGHT REMOVED		−	−
TOTAL WEIGHT ADDED		+	+
NET DIFFERENCE (Ref. 14)			

13	TAKEOFF CONDITION (Uncorrected)	314393 / 296224
14	CORRECTIONS (If required)	
15	TAKEOFF CONDITION (Corrected)	
16	TAKEOFF C. G. IN % M. A. C. OR IN.	31.2 %
17	LESS FUEL	140100 / 94438
18	LESS AIR SUPPLY LOAD DROPPED	
19	MISC. VARIABLES	
20	ESTIMATED LANDING CONDITION	214493 / 201786
21	ESTIMATED LANDING C. G. IN % M. A. C. OR IN.	30.9 %

COMPUTED BY Malcolm Lies
SIGNATURE

WEIGHT AND BALANCE AUTHORITY
SIGNATURE

PILOT
SIGNATURE

Loaded for Trouble. Page 20.

MILITARY AIRLIFT COMMAND

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LT GEN JOHN F. GONGE Vice Commander

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The MAC Flyer

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For Greater Efficiency
in MAC Air Operations

NOVEMBER 1975 MACRP 127-5 VOL XXII, NO. 11

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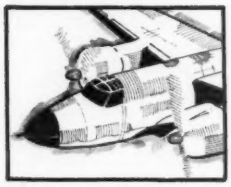

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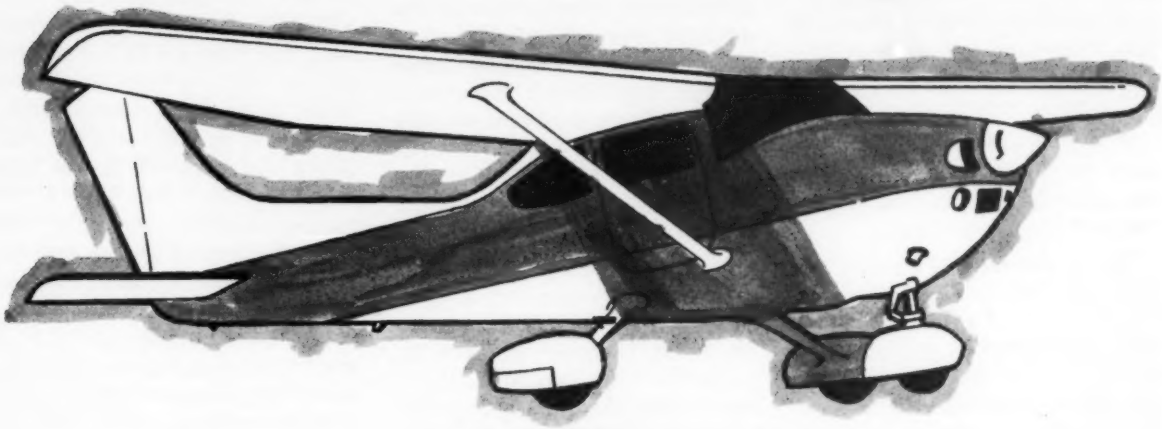
Distribution F, X; OPR MAC/IGFE.

Honorable Mention
1975 MAC Flying Safety Writing Contest

Having a private pilots rating was just like having a drivers license, or so I thought.

On the Wings of God



by Capt Lewis F. Hofmann
438 MAW/SEF
McGuire AFB, N. J.

The sound of the rain on the roof awakened me and I groped for the clock to see what time it was. Nine-thirty. I had overslept again. As always, I skipped breakfast — the sight of food is repulsive to me so soon after getting up. I quickly stuffed my bags in the car and headed for the airport.

"Rain diminishing by afternoon . . ." said the radio announcer. The temperature was 71 degrees — a normal fall day in Mississippi, but wouldn't you know it would rain the day I wanted to fly.

"It's all serviced and ready to go, Lew," said Mr. Hooper as I bounded in the door of the operations office to keep from getting wet.

The rented Cessna 172 was sitting on the ramp looking very sleek and shiny in the rain.

"Great. Now turn that rain off so I can get started."

Hooper made some remark about the clouds being my problem, not the rain. I had to agree.

The office teletype clacked out a few weather sequences. None of them covered the final portions of my flight plan; but the weather gradually improved to the north of the field, so if I could just get out of here, I had it made.

Lowndes County Airport was an uncontrolled field. No weather station or Flight Service. The teletype and a unicom were its only links to the aviation world beyond. I had learned to fly here and had taken my private pilot check just two days before. Now I could go anywhere. Just like getting a drivers license, or so I thought. It all seemed simple on paper.

My flight plan pointed the way north from Lowndes County Airport to Columbus, Ohio, with a refueling stop in Bowling Green, Ky. I had broken up my six-hour flight plan into two, three-hour legs, allowing myself a day in Columbus to flight plan the subsequent legs to Washington, D. C. If I could get there on Wednesday,

Wings of . . .

I'd have ample time to prepare for my wedding on Thursday. My well-thought-out plans were slowly dissolving in the steady pitter-patter of rain.

But my luck came through. The rain changed to a drizzle around noon.

"Looks like you got a thousand feet if you want to give her a try," suggested Mr. Hooper.

I eagerly agreed.

"Yeah, it looks good." I didn't have the slightest idea what one thousand feet straight up looked like.

Mr. Hooper helped me load the plane and after a quick preflight I taxied out for a look. Ha, who was I fooling? I was going, period. It might look rather nasty now, but the weather would surely improve as I flew north.

Heading north, my convictions were confirmed. The ceiling slowly gave way and the rain gradually stopped. By the time I had crossed into Tennessee, my Cessna was droning along in the clear and I was humming the Wedding March and making big plans. Bowling Green was below me before I knew it and I was on my flight plan to a tee.

"Fill 'er up," I said and wandered off to the snack bar for a little servicing of my own. Later, I made a weather check; conditions at Columbus were not good — cold and rainy with a ceiling of 1,200 feet. I wasn't too concerned since I had just flown through worse. No sweat! I called my folks and told them to meet me at the Columbus airport in three hours. I would have the evening and most of the next day to spend with them. After I had hung up, it occurred to me that by the time I got there it would be close to seven. I wondered what time the sun set in Columbus, but the thought passed quickly.

By 4 p.m., the Bowling Green airport was below and behind; if I maintained my airspeed a little higher, I could reduce my ETA and still have gas to spare. I pinched the throttle forward and adjusted the mixture. A broken cloud deck at 4,000 feet caught my eye, but I didn't think much about it. To the north the weather looked bad, but the weatherman had said 1,200 feet would be the worst. Press on.

As the clouds descended, so did I. I liked being low, and the Kentucky landscape was a fascinating collage of rivers, streams, and farms. I couldn't get over the excitement of actually flying alone from state to state. It was power and freedom in one beautiful package.

My excitement slowly changed to concern as I spotted one or two of the higher hills poking up into the clouds. I began map reading and located my exact position. I was over Fort Knox, right on flight plan. Then my heart skipped a beat — I saw that Fort Knox was a prohibited area and I was right in the middle of it. I had a crazy thought that I'd be shot down — or whatever they do to aircraft flying through one. It was pure agony until I passed beyond it.

I was receiving Louisville VOR earlier than planned, but as I descended to stay beneath cloud cover, the VOR broke lock. Now it was low level navigation or nothing. As more and more hilltops disappeared into what had suddenly become an overcast, I strained to locate powerlines and towers ahead. It was now painfully clear that if the present trend of clouds meeting ground continued, I could not continue the flight. But the thought of spending a night in Louisville motivated me to keep going.

The Ohio River Valley appeared ahead and I knew it would lead me to Cincinnatti. I headed for it.

As I flew over the Ohio River Valley, between its wonderfully high and wide banks, I marveled at how well my plan seemed to work. Suddenly, I found myself nearly trapped between the river banks and a ceiling a few hundred feet above me. After a few nerve-shattering squeezes between the tops of bridges and the bottoms of the weather, I began to go in and out of the clouds. About this time I realized that if my meandering course along the Ohio River were straightened out, I would probably have reached Pittsburgh by now. I was way behind flight plan and something had to be done.

I began a 300 feet per minute climb and the engine hummed reassuringly. My five hours of dual instrument instruction were sure paying dividends as I was now totally consumed by the clouds. I was maintaining a heading of approximately 70 degrees which should take me from the point at which I left the river to Cincinnati. It was raining now, although not heavily, and I continued to climb toward what I hoped would be a sunny sky. While passing through about 7,000 feet, I realized that my VOR should be locked onto something. But it wasn't. Nothing would come in. A glance at my map told me the Cincinnati VOR should be within range and that my heading was good. That's when I first noticed that my gyro compass was read-

ing almost 35 degrees off the magnetic compass heading! My instrument flying suddenly went berserk as I quickly reset the compass and realized that I was lost. After regaining control of the plane, I took up a heading of 90 degrees in hopes of correcting back to course.

I was now at 10,000 feet — still nothing but more rain and clouds. Suddenly the airspeed indicator dropped to zero. Ice! I quickly turned on the carburetor heat and pitot heat and started what I thought was a reasonable rate of descent, using the attitude indicator and the sound of the wind on the airframe.

I had read many times that during an emergency a pilot should keep calm. I decided to try it, and for about three minutes I sat back and relaxed as much as I could, knowing that I was lost in the clouds with no airspeed indicator or navigation equipment. When I had collected my thoughts, I checked the chart for terrain elevation in the possible area of my aircraft. I decided to descend no lower than 1,800 feet MSL.

By the time I had reached 1,800 feet, I had my airspeed back but was still in the weather. I wondered how accurate my altimeter setting was. I hadn't reset it since leaving Bowling Green. I turned up Cincinnati VOR and hoped for a weather broadcast. All I got was the VOR identification. I couldn't remember what time the weather was broadcast.

All of a sudden, there it was. The hole that I had been praying for was right below me. I chopped the power and began slowing down. It was a small hole but I thought I could make it.

By the grace of God I didn't get disoriented in my steep spiral down through the opening. As I broke out, freeway signs flashed below. I could recognize the makes of cars on the road and estimated my altitude at 200 feet. I had driven the route many times. It was the outer belt around Cincinnati.

It was dark as I followed the interstate. My ETA for Columbus had passed and I still had 40 minutes of flying left — according to the mileage signs on the freeway. My sectional showed two arrows on the southwest side of Columbus with the name Taylor beside them. I decided that it must be an intersection. I called Columbus Approach when I reached the intersection, but the controller had never heard of it. I told him it was located 30 miles southwest of Appleton VOR and he asked me to call over Columbus.

The lights of Columbus were not in sight and the visibility was so poor that the only reference I had was the cars on the freeway. Gradually, the traffic grew heavier and more interchanges appeared as I neared the city. I waited a few more minutes and called approach control again. This time I reported VFR.

"Columbus Approach Control, this is Cessna 7080 Tango."

"7080 Tango, go ahead."

"Over Columbus, VFR, for landing."

There was a pause.

"Cessna 7080 Tango, did you say VFR."

"Roger."

"7080 Tango, the airport is about to close for all traffic due to weather. Stand by."

I stood by but soon found myself right on top of the city trying to avoid the tops of buildings that were jutting up into the clouds.

"7080 Tango, cleared to land on runway zero nine. Can you find the field?"

"Roger, I'm familiar with the area."

"Call field in sight."

I followed the streets leading to the airport and felt reassured because I was in familiar territory. The strobe lights came into view just in time for me to zigzag and land. It was all over.

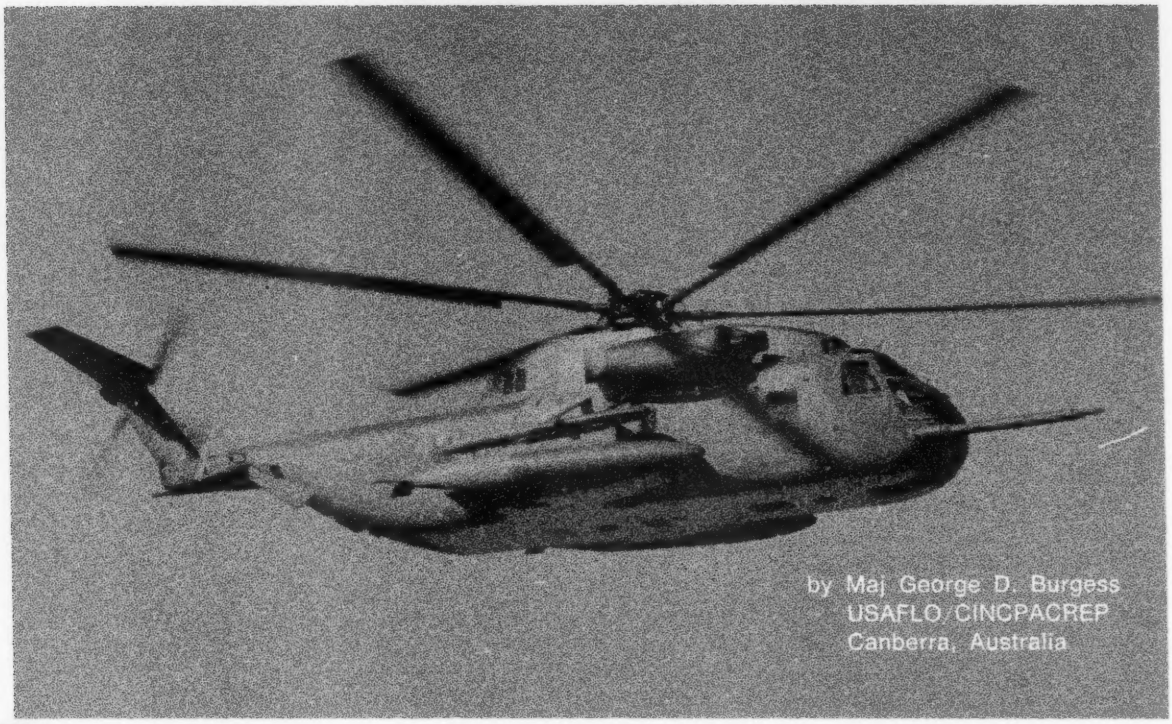
I turned off the runway and was cleared by ground control to the general aviation ramp. I rogered them again, not having the slightest idea where the general aviation ramp was. A follow-me truck intercepted me; as I followed the marshaller's signals and manuevered for a parking spot, the engine suddenly sputtered and died. Looking around the cockpit, I soon found out why. The fuel tank selector was on left tank — the same position it had been in when I took off — and the tank was empty.

ABOUT THE AUTHOR

Captain Hofmann was a chemistry major at Antioch College in Ohio. His initial service with the Air Force was as a B-52 navigator. Since graduation from pilot training he has flown C-141's at Norton AFB and Dover AFB, and the C-7A in Vietnam. Captain Hofmann is presently the Chief of Flying Safety for the 438 MAW, McGuire AFB, N. J.

Powdery snow is the skier's delight, but for the unsuspecting sling-winger, it could be the old "bag over the head" trick.

Whiteout!



by Maj George D. Burgess
USAFLO/CINCPACREP
Canberra, Australia

Pilots have a natural dislike for taking off and landing without visual references to the outside world. We are trained to overcome this, but there is one situation in which doing so becomes extremely difficult. Rotor-wingers flying in snow country face this hazard and find it as dangerous as flying with a bag over their head. It's caused by the whirling, powdery snow kicked up by the rotor blades and is called "whiteout."

Whiteout severity increases sharply during applications of collective near the ground during takeoff and landing. Loose snow can completely engulf the aircraft, leaving the pilot a couple of nasty options: an instrument takeoff or a whiteout landing. Completing an ITO under these circumstances is possible although it can be a tense situation if you're not prepared. The real kicker is trying to determine where sky ends and terra firma begins during a landing attempt. In such a situation, a pilot is most susceptible to vertigo, and this is not the place to try to figure which way is up.

Learning how to compensate for a whiteout will help those who have never experienced it. While education can't replace experience, it can help the uninitiated prepare for the worst. The following fictional account of a crew experiencing whiteout during a SAR mission illustrates the dangers involved in operating a helicopter near snow-covered surfaces and the symptoms to look for in whiteouts.

* * *

RCC notified the helicopter alert crew that a civilian pilot was down in a mountain pass a few miles from the base. A ground rescue team was on the scene, but RCC didn't have radio contact with it; therefore, a SAR scramble was laid on to attempt a rescue of a possible survivor.

The aircraft commander quick-

ly worked out a flight plan as his crew readied the helicopter for flight. A check with the weatherman revealed a grim forecast for the crash site: 500 feet obscured, a half mile visibility in snow showers. But there was a slim chance that the weather might improve, so the pilot elected to give the mission a try.

Maintenance men removed static wires and engine covers as the pilot reached the aircraft; the waiting flight crew had "cocked" the helicopter, so in a few minutes the cold, damp chopper taxied to the runway. Methodically performing the "before takeoff" checklist, the pilot responded to his copilot's challenge, "Accel-decel, flat-pitch, and free-wheeling check complete." Events were going smoothly.

After the helicopter lifted off, the pilot steered it cautiously toward the pass. The low ceiling and poor visibility made the going rough. Cruising at 70 knots, the pilot cross-checked pilotage against tacan. As the chopper climbed up the valley toward the pass, the weather worsened.

"We'd better set it down. Metro said the weather should improve, slightly," the pilot told his crew. He decided to land on a small plateau and wait it out awhile.

As he eased the big chopper down, wisps of snowflakes rose to meet the descending aircraft. Most of the snow had been blown away from the landing area so the pilot had little difficulty with his touchdown.

"Sure wish we had a way to contact that ground rescue team that's at the crash site. We can't wait too long. I'm afraid the pilot may be in bad shape."

Snow continued to fall as fog masked rising hills on either side of the idling helicopter. A half hour after their unscheduled landing, ceiling and visibility improved. Once again the rotor blades bit into the arctic sky and the helicopter continued on to the crash site.

The crew scanned frantically for obstacles to flight and for signs of the plane's wreckage. Finally they spotted the aircraft's twisted tail perched on a snowbank. The ground team surrounded it, waving to the helicopter as it circled overhead.

"Ten seconds out for smoke bomb drop," said the pilot over interphone. Opening the cabin door, the helicopter mechanic deployed a smoke bomb on the pilot's command. Again the chopper circled as the colored smoke pointed out the surface wind direction. Satisfied that he had a safe spot on which to land, the pilot started the approach.

He flew the approach slightly faster than normal, attempting to land before the rotor wash created instant whiteout. The technique worked well. The main landing gear had just touched the surface as snow began swallowing up the chopper.

"Standby to engage the rotor brake," said the pilot matter-of-factly. The centrifugal force on the blades slowly dissipated under the strain of the brake. The mechanic and pararescueman jumped out of the helicopter to examine the civilian pilot, but the pilot was dead. Their flight through the bad weather had been for nothing.

The pilot decided to recover the body and return it to the base.

The ground team and flight crew hoisted the body onto the helicopter. In a few minutes the crew had reengaged rotors and was preparing for liftoff.

Visibility had deteriorated during the last few minutes and the pilot briefed his crew on his departure intentions.

"We'll head back down the valley. If the viz gets too bad, we'll just put it down until things clear up."

He pulled the chopper into the air and eased it forward. Snow whipped up around the fuselage, making outside visual reference almost impossible. But in a few seconds the aircraft passed through translational lift and whiteout conditions disappeared. Visibility suddenly worsened again so the pilot pointed his aircraft in the direction of what appeared to be a suitable landing area. Unfortunately, a heavy accumulation of powdered snow blanketed the intended landing spot.

The pilot barely got the helicopter on the ground as a frenzy of snow covered the windshield and side windows. Feeling out the landing spot for firmness, he slowly lowered the collective. Almost immediately outside references returned as flat pitch blades no longer whipped the snow around the cockpit.

Visibility seemed better out of the copilot's side. "Take the aircraft and I'll back you up," he told the copilot. "See if you can take off and get us down the valley; I can't see out this side."

"I can see a few hundred feet over here," answered the copilot. "I'll head toward some trees over there and use them for reference — and if we have to, we can stop again."

Whiteout!

As the left-seater pulled in collective, the snow whirled around the machine. Forward motion didn't improve visibility since the chopper was close to the ground and moving below translational lift speed.

Apprehensively, the pilot took control of the aircraft. Now they were in a precarious situation. They had left their landing spot, but couldn't distinguish outside references. The helicopter gyrated wildly as the pilot tried to maintain control.

The helicopter mechanic attempted to monitor aircraft movement by watching the ground from the cabin door. He watched with horror as the chopper's forward motion stopped and the helicopter staggered into a hover. Back and forth, the aircraft hovered. Then it eased backward as the pilot strained for something outside to focus on. Failing to identify anything through the whiteout, he began to overcontrol. Then, leaning forward in his frantic search for a reference, he unconsciously lowered collective. The helicopter tail boom and one main landing gear banged down. The main rotor blade sheared the tail boom, ricocheted off the snowy surface, changed plane, and ripped into the cockpit. The pilot never knew what hit him as the blades ripped through the cockpit, killing him instantly.

Out of control, the chopper settled hard into the snow. The copilot quickly shut down the engines and ordered evacuation of the passengers. What had moments before been a rescue vehicle was now a lifeless pile of junk — a victim of its crew's "whiteout."

Given the choice of flying in conditions conducive to whiteouts, most aircrews would opt to shuffle paperwork instead. However, rescue requirements don't play favorites. Crews must sometimes respond to life and death situations in weather they normally would avoid. A whiteout may be one of the dangers inherent in such a mission.

What Can a Pilot Do?

Here are a few suggestions on how to combat a whiteout:

On takeoff, try pulling in a small amount of collective to blow away loose snow. If the snowfall is light, you can sometimes get rid of your problem before taking off. Should the snow on the ground be too heavy for this, an instrument takeoff may be the only answer. But you have to be certain that you have sufficient power available. Getting up and away from the snow is the key to maintaining proper outside vision.

On landing, if you have sufficient pad space to run on, you may want to approach slightly faster than normal. Make sure your wheels or skids are on the ground by the time the whiteout comes around the fuselage to blind you. That way you'll be able to lower collective and decrease the rotor wash. Should the pad be small or should you have to drop in over trees, your approach will become more difficult. A steep, slow approach keeps the rotor wash ahead of the helicopter, thus kicking up a cloud of snow — just waiting to swallow you up near the surface.

The main rotor blade sheared the tail boom and ripped into the cockpit

Before you decide to land out in the boonies, make plenty of recon passes over the intended landing site. It may turn out you can land on a spot where whiteout conditions are not present. Walking a few feet after landing may be better than walking home after a prang. Remember, whiteouts are dangerous. Don't give them the edge by rushing into land with a bag over your head.

Major Steele and Crew

GOOD SHOW

Top row, left to right: Maj Philip A. Steele, aircraft commander; 1st Lt Robert T. Dhamer, 1st Lt James A. Gardner, copilots; 1st Lt John S. Williamson, navigator. Bottom row: SMSgt Kenneth M. Smith, TSgt Dock M. Gainey, engineers; SSgt Lloyd L. Cooper, SSgt John B. Godwin, loadmasters.

Maj Phillip A. Steele, 41 MAS, eased the throttles forward and the C-141 blocked out from Dover AFB on a mission to Rhein-Main, Germany. As the Charleston based Starlifter began a right turn on the ramp, the crew heard two muffled explosions and felt the aircraft's left wing drop sharply. Major Steele looked out of his left window and saw the wing tip and number one engine resting on the concrete. He quickly pulled the fire T-handles and shut down number one and number two engines.

The aircraft was in sight of the control tower and radio-dispatched maintenance vehicles, but Major Steele elected to further minimize fire potential by shutting down the other two engines. Meanwhile, one of the flight engineers, SMSgt Kenneth Smith, used emergency procedures to shut down the APU. Major Steele hurriedly proceeded to the cabin to assist in passenger evacuation.

SSgt Lloyd Cooper and SSgt John Godwin, loadmasters, had already opened the right rear troop door and TSgt Dock Gainey, the second flight engineer, and 1st Lt Robert Dhamer, the third pilot, quickly prepared the crew entrance door for evacuation. Once outside, Sergeant Gainey found a collapsed left main gear and fuel gushing out of a ruptured tank just above number two engine.

Fortunately, the engines had been shut down soon enough to prevent ignition of the now growing fuel spill. Sergeant Gainey reported his findings to Major Steele and the AC directed simultaneous passenger evacuation from both the right rear troop door and the forward crew entrance door. Sergeants Cooper and Godwin deplaned some of the passengers from the rear of the aircraft while Sergeant Smith, Lieutenant Dhamer, and 1st Lt James Gardner, copilot, funneled others through the forward exit. Outside the tilted aircraft, 1st Lt John Williamson, the navigator, directed the passengers to a safe area and quickly began a headcount. All were accounted for, but to be absolutely sure no one was left aboard, Major Steele and Sergeant Cooper made a final check of the aircraft interior.

Less than three minutes after blocking out, the C-141 stood silent with its 52 passengers and crew of eight safely evacuated. An investigation revealed that the left main landing gear piston had exploded, collapsing the landing gear and rupturing a wing fuel tank from which over 6,000 gallons of fuel drained onto the ramp.

In spite of the extreme potential for passenger injury, the professionalism and teamwork of Major Steele and his crew resulted in an expeditious, injury free evacuation. GOOD SHOW, Major Steele and crew, for an outstanding performance during an unusual and serious emergency.

The Martin Marauder was headed for Europe and combat. In this historical account of a gas-laden "flying prostitute," you'll find a blueprint for disaster.

WALKER'S WILDCATS

Walker's Wildcats, a band of happy warriors, headed for the unknowns of Europe and aerial combat. Our steed for battle was the short-winged Martin Marauder, the Widow Maker, the Flying Prostitute, the fastest of our bombers and in the minds of our crew, the most magnificent machine in the air.

The six of us, pilot, copilot, navigator-bombardier, radio operator, engineer, and gunner, crawled aboard, performed our preflight tasks and taxied out for the takeoff. The aircraft was heavier than usual because of her load of combat gear. Two "drop away" fuel tanks filled the bomb bay, and they, too, sweated from a full load of fresh fuel.

At the end of the runway everything checked out okay, and we started the takeoff roll; we rolled, and we rolled. As we were taking off, a freight train rumbled along the tracks which ran perpendicular to the end of the runway. We lifted off at about 130 m.p.h., ran a close race with the train at almost the same altitude and beat it to the crossing by a nose. Gear and flaps came up and the belly of the aircraft flirted with the tops

of palm trees while we tried for speed instead of altitude. Slowly, the speed increased, and we started a cautious climb.

We leveled at 8,000 feet with the shining Atlantic below us and took up the first heading.

"Pilot, this is Nav. I'm going to put up the dome and get a sun shot for a good departure fix," the navigator called.

"Okay," the pilot answered.

The navigator lowered the hatch and the fresh, cold air was a welcome relief. He put the dome in place and went to work.

"Pilot, this is Gunner, you guys smell gas up there?" came over the interphone.

"Sure do," the pilot answered. "Matter of fact, it's getting stronger. Everybody put out their smokes, don't actuate any electrical equipment, and let's find the problem."

"It's the tanks in the bay; both of them are leaking at the filler necks — one of them is real bad and I can't tighten the clamp," the engineer called.

"Navigator, give me a heading back home," directed the pilot.

"Roger, but it looks like there's another problem. There's a big tear in the rudder and the fabric is flapping around."

"Let's transfer some fuel out of the bay tanks," someone suggested.

"Negative, no switches on," reminded the engineer.

"The hydraulic filler access door is gone from the top of the fuselage. Looks like that's what went through the rudder," the navigator reported.

"There's raw fuel all over the aft bay. Looks like it's coming from some other places in addition to the bay tanks," the gunner called excitedly.

"Open the bomb bay doors and let's get some fresh air blowing out there," the pilot ordered.

"It's a triangular tear in the rudder, about six by eight by six. Doesn't seem to be getting any bigger," the navigator called.

Chatter crackled over the interphone as problems compounded and solutions became more elusive.

"Everybody get 'chutes, Mae Wests, and survival vests on." The pilot was taking no chances. "Get the dinghies out, check the ditching procedures, and stand by. Nav, get out of that dome and give me heading, distance, and time to Drane. Radio, call West Palm, tell them our problems, and tell them we're going to head back to home base if things don't get any worse."

"Why back to Drane. Why not back to West Palm?" the copilot asked.

"Because that's where they can fix the airplane; West Palm is just a port of embarkation and they can't do much for us. Besides, the runway is longer, the approach is better, and the emergency guys are geared to our needs at Drane," the pilot explained.

"Keerist! the right engine's on fire," the copilot yelled.

"Feather, and hit the fire bottle," the pilot yelled back.

The engine was shut down, the fire was extinguished and the crippled machine hung in the air on one engine.

The navigator advised the pilot of heading and time to Drane and added that it would be dark at arrival time. There would be no moon and the subdued wartime runway lighting would make for a dimly lighted approach.

We headed for Drane, passing right over a couple of airports, still visible in the twilight and with adequate runway. But we were headed home.

We called Drane, advised them of our problems and requested advice.

The squadron commander and the engineering officer came to the tower to talk with us in what must have been a forerunner of today's Conference Skyhook. The wing had experienced heavy aircraft and crew losses during training and everyone was a bit spooky about what to do.

Finally, they advised us to jetti-

WALKER'S WILDCATS

son the bay tanks, burn (I shuddered at that word) down to minimum fuel, and land.

We flew over an isolated area to drop the tanks.

"Tanks away," the bombardier called, but nothing happened.

"Try again," the pilot said.

Several tries were made but the tanks held on.

"Try using the screwdriver release on the shackles," suggested the engineer.

"That won't help," broke in the gunner, "they're hung up at the necks."

We advised Drane.

"Either bail out or try for a landing — you're closer to the problem," we were told. "It's your decision."

The problems and the choices of solutions were discussed among the crew. We were pretty low, it was dark, and no one wanted to bail out.

The pilot had made one actual single engine landing during training and the copilot none. Each had made several simulated single engine landings.

"Let's try to start the right engine; maybe it'll be okay," the pilot suggested. "If we have a fire, we'll shut it down; if not, we'll use it for landing and shut it down during the roll. If it burns, we'll bail out and the choice will be made for us," he continued.

About that time, almost anything seemed like a good idea.

Without advising Drane, we started the engine and it ran beautifully. No fire, just a plume of clean exhaust flame.

"Drane, we've got two engines now and want a straight in approach with emergency gear standing by," the pilot called.

"Roger, you have it, Sir," was the reply.

We went through the before-landing checklists, reviewed the emergency ground exits, and headed in on a long final.

The night was cold and the orange groves that surrounded the field were dotted with the flames of burning smudge pots.

"Looks like you're going to be short," the copilot cautioned.

"Damn, I was concentrating on that row of smudge pots, not the runway," the pilot answered.

He pushed both throttles forward. The engines responded equally for a moment, then the right engine exploded in a shower of sparks and fire that looked like a Chinese New Year celebration.

The Marauder yawed violently to the right and started to roll.

The right wingtip hit the ground and we cartwheeled across the sand threshold. The landing gear broke away from the aircraft, and we hit the concrete runway spinning like a top — fortunately right side up. A mild explosion in the bomb bay shook the airplane. Fire seemed to erupt from everywhere at once. Wiring was torn loose in a brilliant shower of sparks, leaving more fire in its wake. The belly of the bird grated across the rough concrete of the runway as ambulances and fire trucks illu-

minated the whole show with ghostly red lights.

I could hear our crew members yelling and screaming. I had often wondered what final thoughts I would have when I knew death was near. And as the wounded aircraft continued on her blazing path to total destruction, I knew that I would soon find out.

Then suddenly the airplane stopped, and the thought that came to my mind was of the whooshing sound of the fire around us.

"Get the hatch open," the pilot screamed.

The copilot seemed transfixed; he alternately released and fastened his safety belt, making no effort to leave his seat.

I had placed a seat cushion in front of me prior to impact, but had banged my face and head on a map case on a rack in front of me. Teeth were broken, my jaw wouldn't work, blood ran down my neck and soaked into my undershirt. My left thigh was bleeding and it seemed that my right leg was bent forward at the knee.

The engineer beat out the smouldering fire in his hair and sprayed a fire extinguisher frantically about the compartment.

I looked at the radio operator and almost got sick. His feet had jammed under some floor-mounted radio boxes and then had been pulled violently free during convulsive gyrations of the airplane. Only bloody stumps remained. His nose was smashed and he seemed barely conscious.

After an eternity, the hatches were jettisoned and the five of us in the front of the aircraft crawled and jumped to safety. We found the gunner; he was incoherent, soaked in blood and nearly unconscious near the tail of the aircraft. We gathered around in a cluster; lying on the ground we were unseen by any of the emergency crews in the darkness.

"Get my crew out of there!" the squadron commander was screaming at the firefighters. He stood dangerously close to the burning aircraft — a potential bomb with its still intact fuel tanks.

We lay still and whimpered until the airdrome officer spotted us and called for the medics. As they loaded me into the ambulance, I looked at our airplane through the maze of smoke, fire, and flickering lights. Its plexiglass nose had broken away and we could easily have escaped that way instead of fighting the escape hatch and then jumping to the ground.

* * *

The good medics put everybody back together with string, wire, and plastics. Weeks later, after being released from the hospital, we were answering the questions of an accident investigating board.

My God, the mistakes we had made. The lack, or fallacy, of our logic had destroyed an airplane and busted up its crew. It was unbelievable. The investigators belabored each of our mistakes for weeks. There's no point in doing that here; they're easy enough to see. But, in defense of the crew, I feel compelled to point out that this happened more than 30 years ago, before the advent of standardization, training, and flight safety programs as we know them today. I can't imagine a crew today making the mistakes that we did.

While in the hospital, I became friends with several guys on my ward, many of whom had been injured in combat. The patient in the hospital bed next to me had had his feet blown off by a land mine in Bougainville. He was a black soldier with magnificently white, sparkling teeth. With my broken fangs, I envied those teeth, until I realized I still had my two feet. We became close friends. I told him my story, and he told me how, in a moment of carelessness, he had driven a jeep over a land mine.

I looked at his bandaged leg stumps and thought of the tough years that were ahead of him.

"With all the unknowns like snipers and mines and booby traps around a place like Bougainville, a guy really has to be careful just to stay alive," I observed.

He raised his eyebrows, looked at my mummy-like bandages, and smiled.

He didn't speak. He didn't need to. I knew what he meant.

Terrain and VASI

I really enjoyed your August 1975 articles entitled "An idea from the Line" and "Terrain Clearance Studied." As a McChord navigator I feel an above-normal personal commitment to solving the terrain clearance problem; I would, therefore, like to make a few comments on the approach charts presented, in the hope that they will be of help.

I like the Montgomery-Mitchell suggestion (page 12) as an approach aid for navigators. Primarily, I would prefer the imposition of their distance rings and altitudes in heavy ink over the appropriate JNC chart in order to make their idea usable as a radar aid as well. The JNC-43N chart, for example, is approximately the same scale as the one used in the McChord plate on page 12 in THE MAC FLYER article. A MAC pamphlet in the 55 series could be published, covering appropriate bases used by MAC crews. Bases close together, like Clark AB and Cubi Point NAS, could have joint distance rings and altitudes for those areas between the bases and could be covered by one approach plate. Once the charts in this pamphlet had gotten the crew to a safe, identified point within 30 miles or so of the destination base, the crew could switch to the new approach plate on page 14 of THE MAC FLYER.

The page 14 illustration gives a crew all the information and minimum vector altitudes they need, once they are close to the base and ready to land, using exclusively the appropriate nav aid chosen. The page 12 illustration, imposed on a JNC chart, gives the crew, especially the navigator, a longer range, "big picture" presentation to look at and use as they prepare for descent. If the radio nav aids are out, at least the page 12 chart could be used with radar. If the radar is out too, as may have been the case with our March crash near McChord, the chart could be used for rough map reading, using city lights or other landmarks.

I hope that my ideas will be of some help. By the way, the future STAR-type procedures sound like a winner. Also would you please ask *Navigator* magazine at Mather AFB to publish the two articles I've discussed? This would increase the audience for these important articles and also give you more ideas and suggestions "from the field" on how to solve the terrain clearance problem.

Before I close this letter, I would like your help in settling an argument that came up on my last mission between a pilot and myself. In May 1975, the MAC FLYER published an article entitled "Three-Bar VASI." I concluded from that article that a C-141 was one of the "heavies" that should overfly the first two bars (white) and underfly the third (red). The pilot concluded that it didn't make any difference in a C-141 if you overflew either one or two of the first bars. Could you please give us an opinion in a "Quick Stoppers" article in your next issue?

Keep up the good work, and thanks for helping us crew members stay out of trouble!

Robert W. Allen, Jr., Capt
McChord AFB, Wash.

★ We're glad you enjoyed the articles. A copy of your letter has been sent to the task group that is studying the terrain clearance problem. To answer your question on the VASI system, here's a quote from AFM 51-37, page 18-16 (C2), 15 May 74: "Three-bar VASI Systems are being installed at some airfields to accommodate jumbo aircraft, e.g., C-5A and Boeing 747. Pilots of these aircraft will use the two far bars in the same manner as pilots fly the two bars of the standard system. Pilots of other aircraft should ignore the additional far bar and fly the standard system." Thanks for the letter and ideas.

Takes Exception

Reference your article "FAA Effectiveness on ATC Challenged" in the July 1975 issue. I take exception to a comment that was made. On page ten, second column, a statement was made that "pilots can be assured only of separation from other aircraft under instrument flight rules when air traffic control has established and advised a flight it is in radar contact."

Until radar contact is established, aircraft operating under instrument flight rules are provided nonradar separation. The statement made is erroneous and should be corrected.

Thomas R. Reames, MSgt, USAF
ATC Operations NCO
2017 Comm Sq (AFCS)
McGuire AFB, N. J. 08641

★ Charles E. Schneider III, author of the article, which originally appeared in *Aviation Week & Space Technology*, says the statment stands as written. He points out that the only service a pilot can be assured of receiving when in radar contact is separation from other aircraft — not terrain or obstacle clearance. As written, the statement does not consider any reference to nonradar separation. It refers only to radar separation. The point is, as the other parts of the story heavily underscore, that pilots assume they are being provided a number of services, including separation, when advised they are in radar contact. But testimony showed that the only thing they are getting is separation from other traffic as provided by radar, not terrain or obstacle clearance. Mr. Schneider points out that the statement does not say that the only time an aircraft can be assured of separation is when in radar contact. Thank you for taking the time and interest to question the statement. We hope all of our readers take as much interest in their profession as you. See you in the GCA pattern.

June's Hangover

On page 14 of the June issue, the author of "The Hangover Hitch" states,

"For example, if you drink three Manhattans (ten and one-half ounces of alcohol) . . . "

Three Manhattans do not contain ten and one-half ounces of alcohol — unless you are making them at home in a seven-ounce glass out of 100 proof whiskey with no ice and no vermouth. A Manhattan made with two ounces of 100 proof whiskey and one ounce of sweet vermouth will contain approximately 1.2 ounces of alcohol. At your average O'club they're made with one and one-half ounces of 80 proof whiskey (.6 ounce ethanol) and a splash of vermouth. That means three of these would have between 1.8 and 3.6 ounces of actual ethanol.

We do not question the author's statement on page 13 that the normal metabolism rate for ethanol is one ounce of 90 proof alcoholic beverage per hour or .45 ounce of ethanol per hour. He is a physician. We learned it was closer to .6 ounce ethyl alcohol per hour, but with a range from .3 to .9 in normal healthy livers. Therefore, we are both in the same ballpark, and we would agree that a drink per hour is a good rule of thumb for all to to use.

While the metabolism rate for ethyl alcohol is immaterial in the instant case, we fear that the many very good points in the subject article might be rejected by the drinking aviator when he reads that the author believes it takes 11 hours to get over the effects of three Manhattans. Accuracy in alcohol-related articles is just as important as it is in drug-related articles if we are to maintain credibility with our readers — and credibility is critical to acceptance of the printed word.

We wholeheartedly concur with all of the writer's conclusions, recommendations, and cautions. We hope we will see more articles devoted to alcohol and flying safety.

Fredrick A. Wagner, Maj, USAF
Assistant for Social Actions
DCS/Personnel, HQ MAC

★ Interpretation of the word "alcohol" is the key. When the author used "ten and one-half ounces of alcohol" he was referring to whiskey, not ethanol alcohol, in order to avoid technical terms and to facilitate reader interest. The author constructed his imaginary Manhattan using two ounces of 86-proof bourbon and one ounce of sweet vermouth (for an ethanol content of slightly over one ounce). Therefore, three of his "Manhattans" would contain over three ounces of ethanol. The currently recognized range of *ethanol* metabolism by the liver is 100 to 200 milligrams per kilogram of body weight per hour. This converts to about 0.3 ounces per hour for the average adult. Thus, it can be determined that three Manhattans constructed by our author would take at least ten hours to metabolize. (The officers club version would take only six.) The MAC Surgeon General's Office takes a rather conservative view of estimated volumes of alcohol consumption, absorption, and metabolism and supports the author's contention that his Manhattan would require 10 to 11 hours to metabolize. Thanks for your interest and comment on the story. Cheers.

Widemouthed Bass?

I've been an ardent admirer of THE MAC FLYER for a long time and read nearly every issue. I find the magazine enjoyable, entertaining, and educational.

It's this last frame of reference that I write you about: the educating part. I've never written a magazine before but curiosity overwhelms me.

I've spent many hours fishing and consider myself a rather competent angler. But your story in the September issue about C. R. Terror's antics makes me think I may have missed something.

On page 25, your reference to "visions of widemouthed bass" caught my eye. Now I have heard of "largemouth," "smallmouth," "striped," and "rock bass" and even caught a few; but I've never heard of "widemouthed" bass. I'm not disputing such an authority as THE MAC FLYER or C. R. Terror; I'm sure that such a fish must exist.

My question is, what does a "widemouthed" bass look like and what kind of lure does C. R. use to catch such an elusive creature of the deep? Also, what is their habitat?

I'm planning a fishing trip shortly and may travel to any locale to land such a rare treasure.

Thanks and keep up the good work.

Deep C. Fisher

★ Major Terror was unavailable for comment on his reference to "widemouthed" bass, and the editors were also unable to come up with any information on this unusual fish. But our art director, himself a fisherman, has come up with his version of what a "widemouthed" bass would look like. . .

Pitchout Prohibited

Reference your short article in September 1975 MAC FLYER. Not only does the T-39 not fly like the F-86 (I'm told) but subtly entering a pitchout (360 degrees overhead) has gone the way of the F-86 — it's history. Overhead patterns are no longer allowed in MAC T-39's (reference AFR 60-16, MACSUP 1, para 6-11j(3)(g).

David W. Noones, Lt Col, USAF
Commander, 1401 MAS
Scott AFB IL

★ Right you are, Colonel. Thanks for the reminder.

The editors welcome letters from all readers, both military and civilian. Letters should be addressed to:

MAC/IGFE
Editor, THE MAC FLYER
Scott AFB IL 62225

Letters should be signed. At the author's request, names will be withheld. Letters may be controversial in nature but should be written in good taste and address specific issues rather than personalities. The editors reserve the right to print each letter in whole or in part.

With fuel conservation in mind, the troops at Boondock have come up with a new idea.

Hanging In There at

by Lt Col Gene Allen
137 TAW (ANG)
Will Rogers Airport
Oklahoma City, Okla.

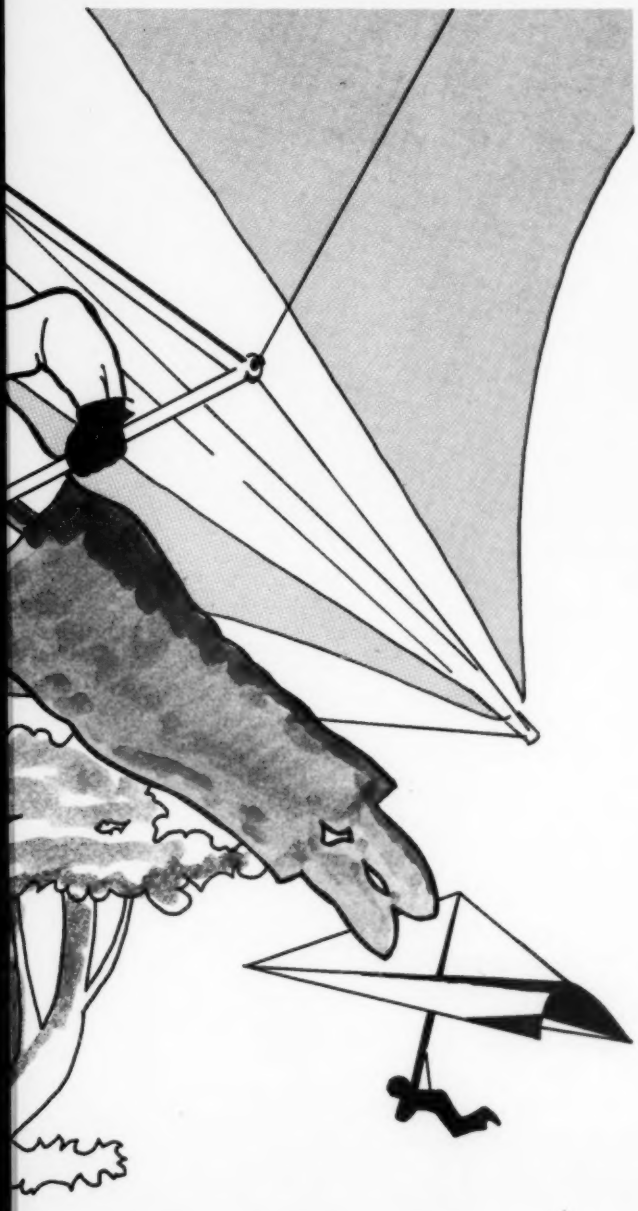
Sir:

This is a very difficult letter to write. Not just because lieutenants don't usually write to colonels this way, but also because I'm not sure how to explain this. But tomorrow we're sending in a report that shows we've stopped using fuel here at Boondock Air Force Base and I just feel you're going to need some sort of explanation. So we all drew cards — and as usual I got the deuce of clubs.

I guess you could say that it all started with that message you sent a few months ago about conserving fuel. You wanted to make sure we got the maximum amount of training out of every flight, as I remember, and still do our best to conserve every gallon we could. Well, that made a big impression on all of us and we started trying to think of ways we could do that.

Lieutenant Fisher was the one who got the idea first. He said it came to him because there are a lot of hills around Boondock and there's quite a bit of sunshine and warm temperatures as you know. Anyway, Lieutenant Fisher figured maybe we could convert some of our local flying to hang gliding. It got a big laugh at first; you can imagine how it went over at the Club. But somehow or other,

Boondock AFB



we decided to do it, just for the fun of it. Fisher had a glider and we took it out a few days later and started checking out all the pilots.

Now I know this has got to sound weird — a bunch of professional Air Force pilots sailing around in hang gliders; but, Sir, some of the strangest things have happened. I know what you're probably thinking. Recent reports indicate that hang gliding isn't one of the safest activities, and maybe we've just been fortunate, but the truth is, we've stopped having accidents, or even incidents, in flight.

Part of it is that the pilots have a tough time getting airborne. But another interesting fact is that they are extra careful about checking out their gliders. I mean, it's just a couple of pieces of aluminum and a plastic cover and it doesn't look like it would hold up five pounds, let alone a full grown pilot. So everybody checks out that glider from top to bottom and front to back. I guess they used to look at regular aircraft and figure that they looked so safe and solid that they didn't need to pay much attention to them. Anyway, they sure don't feel that way about hang gliders.

Another thing: When you're flying in a hang glider you're just hanging out there in the breeze without anything around you. I've noticed this has a profound effect on our pilots. They never take off in the gliders without knowing exactly where they're going. They take a good look at all the trees in the way and they decide which way they'll turn if something gets in the way. They also check the wind very, very carefully. Of course, they probably did those things when they were flying regular aircraft, but somehow it seems more important when you're just hanging out there in the breeze. Maybe all that metal and plexiglass and radar and instruments makes people feel secure. Maybe that's what makes them get a little careless in jets sometimes. But believe me, none of our pilots get careless hanging on to these birds.

Something else I've noticed. The ground crews are a lot more involved in what they're doing. We use three people to help get each glider off. They hold each wing tip level and the tail off the ground until the pilot gets a good running start. And if somebody stumbles or lets go too soon, well, the flight just doesn't get off. Of course, it's always been

that way with ground crews in any kind of plane. But the bigger and more complicated they are, the less important each man seems. But with these birds, every man can see the results of his efforts immediately — good or bad. It's been great for morale.

Well, as I was saying, it all started out as a joke but the first thing we knew everybody was getting involved. We've even been doing some research and development into new hang glider airframes. After mastering the conventional one-man types, we built a larger model that took a pilot and copilot. As you know, hang gliders are steered and controlled by the position of the pilot's body — just a little movement one way or the other makes a big difference in flight attitude. Right away the pilot and copilot of our new model found out that they had to be perfectly coordinated if they weren't going to pile the thing up at the bottom of the hill. So they made sure they had the whole flight planned out before they ever started. You never saw such crew coordination! And I have to say it's a tribute to their newly developed skills that every flight of the new two-place glider has been a success.

The whole program has been a success, in fact. I guess we did get a little carried away. At least that's what we decided when someone pointed out that we were going to have to file the fuel report with a big fat zero under "gallons used." So we're getting back on the track starting tomorrow. The next report will show a little more normal usage of fuel and we hope we can also save a little as you requested.

In the meantime we're going to transfer the hang glider project to the status of off-duty recreation. Even so, I think it will have a lasting effect on our attitudes about flight safety. We'll keep up with the research too. Lieutenant Fisher says he has a new design on the drawing board that will be almost as big as a B-52 and carry a six-man crew. That many people running down the hill ought to generate a lot of takeoff thrust. The only problem so far is how to get the tail gunner running backwards fast enough to keep up with the rest of the crew.

Anyway, that's a problem for the future. Thank you for your understanding of the fuel usage report.

Yours for Flying Safety.

The MAC Flyer Wants YOU!

Volunteer now for the 1976 MAC Flying Safety Writing Contest. If you have danced aloft on laughter silvered wings and want to tell someone about it, or if you have words of wisdom for the world's winged wayfarers, let us know about it. We may be able to put your thoughts in print.

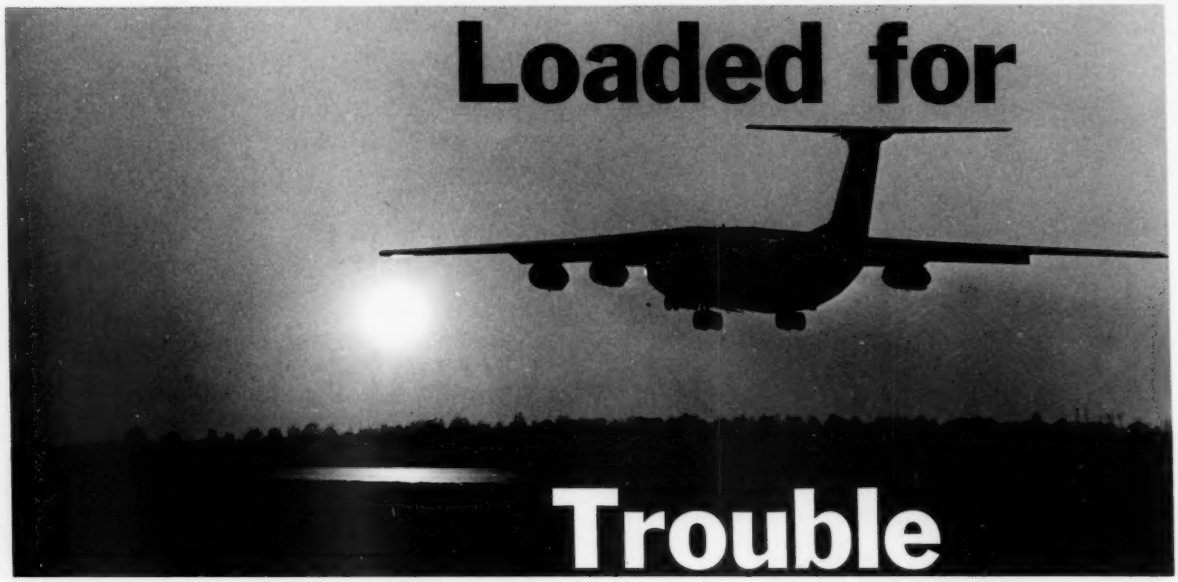
How to go about it? Submit an original, unpublished, and flying-oriented manuscript to THE MAC FLYER and we'll do the rest. Your entry may be fictional, non-fictional, or technical in nature. Or perhaps your bag is poetry or philosophy. Let your free spirit guide you. Entries should be between 1,000 and 3,000 words — that's about six to 14 typewritten pages, double spaced.

And you don't have to be an aviator to enter; support persons are vital to flying safety and we want to hear from you too. Though only military personnel and DAF civilians assigned to MAC or MAC reserve forces are eligible for awards, anyone may submit an entry.

Start now. Entries should be typed in two copies, double spaced, with no identification except the title. Attach a cover sheet with the story title, your name, address (military address, if you have one), and a brief biographical sketch. Send it to: The MAC Flying Safety Writing Contest, MAC/IGFE, Scott AFB IL 62225. Entries must be postmarked no later than 31 March 1976.

A young pilot on his first trip "in command" wants to make everybody happy, but finds his bird . . .

Loaded for Trouble



by Maj Don Hunt
MAC/DOZQ

In spite of having just gotten out of bed, the crew looked tired as they finished their first bag drag of the day and boarded the crew bus. Could the time-lag effect be taking hold so soon? Apparently so.

The aircraft commander had a dozen things on his mind as the crew bus rumbled from the transit quarters to the ops center. The crew had been alerted 45 minutes late and was now pressing for that on-time departure. The AC didn't want to answer to the powers-that-be back home for a crew delay — even though it wasn't the crew's fault. This was his first trip as AC and first impressions are lasting impressions.

"No sweat, Lieutenant, we'll make it." It was the crusty old flight engineer, the only high-time flier in the group. "I was on the last aircraft that got a crew delay and I don't intend for the squadron to get another piece of me for the same thing."

The AC smiled, bolstered somewhat by this word of confidence, and issued quick instructions to his crew. By the time the bus arrived at base ops, they were keyed up and ready to get the show on the road.

* * *

"Damn!"

The ATOC (Air Terminal Operations Center) duty officer had just learned that one of the two 40K-loaders had stalled on the ramp. It wouldn't start and no one knew what was wrong with it. The second lieutenant was really behind the power curve now. The

C-141 was due out in less than two hours and the loadmaster hadn't shown up, and the passenger terminal people were complaining about an airman causing trouble in the terminal. Now, as if the K-loader problem weren't enough, we're also competing for resources supporting a close-watch aircraft that's due in soon, the lieutenant lamented silently.

Uncle Sugar is really getting his quart of blood out of me today, he thought, but at least we'll move that Army comm van and those two large wooden boxes out today. Anyway, in three hours I'll turn over this bucket of worms to my relief.

The loadmaster finally reported to the freight terminal. He was moving fast now with the threat of a delay hanging over him. And, sure enough, he had to wait. As the airmen pulled the load, the loadmaster saw that it was pretty much routine: two pallets of nets, two of army field tents, two with large wooden boxes, and a three-pallet train with a small comm van. He checked the load quickly, and a short while later the K-loader chugged toward the waiting C-141.

Loading was finished just as the AC arrived. The loadmaster was working hurriedly on the form F as the ATOC duty officer showed up with the final manifest.

"Hey, Sarge, here's your manifest. Sorry we're late. The printer was out for 30 minutes — air conditioning broke. Hope you guys are ready to go 'cause ops center is on us to get you out on time."

The temperature was pushing 98 degrees and the loadmaster was sopping wet with perspiration. Seemed as if the late crew alert had caused everything to go wrong — even the weather.

But in spite of their problems, the crew blocked out on time. It was obvious the mission would get airborne on schedule.

The plane taxied into position and the AC applied power. The Pratt & Whitneys whined responsively. A few thousand feet down the runway the AC eased back on the yoke and the C-141 was airborne. The takeoff roll took a few hundred feet more than the crew had expected, and the climb to altitude a few minutes longer than estimated. Other than that everything seemed routine. The crew configured the aircraft for cruise and, except for the flight engineer, started to relax for the long leg ahead.

"Pilot, this is the engineer."

"Go ahead."

"Sir, our EPR setting is a little high and the fuel flow is quite a bit more than what was computed."

"Check your charts. We may be above optimum altitude."

"Yessir, I've just done that, and for our gross weight, it's just taking too much power."

"Nav, check this out," the pilot said to his navigator. "How are we gonna do with this rate of burn?"

A few minutes of silence.

"At the rate we're burning, we may have trouble making destination," replied the navigator, confirming the AC's fears. "We could make it to our alternate but, according to notams, it's saturated with exercise aircraft and they don't want us in there."

There was another short silence while the AC evaluated the situation. Then he spoke to the loadmaster.

"Load, check your form F. Sure you didn't make an error?"

"Er, Sir, I just did that a few minutes ago — it's correct."

"Okay, look at the cargo. Be sure we've got everything listed."

"Right, Sir."

The lieutenant knew that the C-141 was a good aircraft, but something wasn't right. Takeoff roll had been too damned long,

Loaded for Trouble

rotate speed too high, and climb-out performance sluggish. And now at flight level 330, the four turbofans were gulping fuel at an alarming rate. Diversion into a sticky alternate appeared to be his only option.

Dammit, he thought. My first trip and already I'm in hot water. His train of thought was broken by the intercom.

"Pilot, engineer."

"Roger, go ahead."

"Sir, I backed into the performance charts using our current engine power settings and fuel flow readouts. The charts indicate that we're about 15,000 pounds overgrossed."

"Are you sure?" the young AC asked disgustedly.

"Yessir, I figured it through three times and I keep getting the same answer, Sir."

"Pilot, nav."

"Go ahead."

"I dug out my fuel-planning manual and ran the same problem through a couple of times with approximately the same results — close to fifteen grand over what we thought we were," revealed the navigator.

"Loadmaster, pilot."

"Go ahead, Sir."

"Did you find anything down there that might confirm an overgross condition?"

"No, Sir, nothing that would account for anything near 15,000 pounds. I didn't notice it before, but some of these boxes and nets are pretty wet. That may add a few hundred pounds — but no more.

"Copilot, call center and advise them we're returning. Then call ops center and tell them we're coming back and request the freight reps meet us — I want a reweigh of our load."

"Roger."

* * *

Later, in the air freight section, some very unhappy supervisors inspected the entire load. The reweigh of the wet boxes revealed a total error of 7,900 pounds. The two pallets of nets, also wet, were each 150 pounds heavier than had been documented; and the van weighed 5,900 pounds more than computed on the form F, partly because of spare parts, numerous pieces of portable comm gear, and tool boxes that were found inside the van.

The manifested weights of the two pallets of Army field tents, which had been built, weighed, and delivered to air freight by a transportation unit at a neighboring base, were in error by 850 pounds each.

The total manifested cargo weight was 15,800 pounds in error.

"Dammit," sputtered the aircraft commander when he learned of the discrepancy. He and the loadmaster looked at each other. Their thoughts were almost identical — we caught the screwup once we were in the air, but maybe we could've found it on the ground.

"Lieutenant," someone called, interrupting his train of thought, "Ops center is on the phone. Wants to talk to you."

"I'll bet they do," he sighed dejectedly. "I'll just bet they do."

* * *

Incidents such as this do occur, as far-fetched as it may seem. The MAC transportation system is complex and requires a coordinated effort to operate safely and effectively. A lapse by any one at any stage of the system increases the possibility for error — even though we have built-in safeguards.

Getting an aircraft off on time — safely — is not a one-man show. Whether you're a crew member or work in maintenance, operations, or transportation, you share part of the responsibility.

It's well worth the effort to keep that in mind.

Global Notes

15,000 hours

MSgt Payton X. Toliferro, a loadmaster with the 18 MAS, McGuire AFB, N. J., recently achieved 15,000 accident-free flying hours.

Sergeant Toliferro will be presented with the 15,000-hour lapel pin and patches which will mark him as a leader in the safe accomplishment of MAC's global missions. Congratulations to Sergeant Toliferro for an outstanding achievement.

wing winners

Three more MAC units have been chosen to receive USAF Flight Safety Certificates for accident-free operations:

The **375 AAW,** Scott AFB, Ill., accumulating well over the number of hours required for its major aircraft, the C-9, flew 62,000 safe hours from 1 January 1973 to 30 April 1975.

The **314 TAW,** Little Rock AFB, Ark., exceeded the required C-130 hours, achieving 58,000 hours between 16 October 1973 and 30 November 1974.

The **436 MAW,** Dover AFB, Del., completed 27,000 safe hours, almost all in the C-5, during the period 2 March 1974 through 31 March 1975.

lost and found

A C-130 instructor pilot and his crew recently provided some very valuable assistance to a civilian aircraft.

The Fayetteville, N.C., area was experiencing a series of thunderstorms when Fayetteville Approach Control made contact with a Cherokee Arrow which was lost. Even after his aircraft had been located on radar, the pilot expressed doubt that he would be able to find an airfield in such violent weather.

At the time, Fayetteville Approach was also in contact with a MAC C-130 piloted by **Maj Herald W. Stockton** of the 41 TAS, Pope AFB. Major Stockton volunteered to lead the lost Cherokee to an airport in the area. The C-130 was vectored to a visual contact with the Cherokee, whose pilot was then able to follow the larger craft to the Laurinburg-Maxton Airport for a safe landing.

last liftmaster

On 27 June of this year the Military Airlift Command said goodbye to the last reciprocating engine aircraft in its inventory — C-118 number 3300. On that day a Lajes Field aircrew composed of Capt Robert Smith, pilot, Capt Terry Williamson, copilot, Capt Leo Zerutche navigator, and SSgt Ronald Ball, flight mechanic, all of the 1605th Air Base Wing, flew number 3300 to Ramstein AB, Germany, and transfer to USAFE.

This craft had accumulated more than 18,000 flying hours after delivery to McGuire AFB in December 1955. Since then it had been flown by MAC, TAC, and USAFE airmen and served as a presidential support aircraft with the 89th MAW before being assigned to the 1605th at Lajes in February 1973.

Captain Smith and his crew were doubly sad as the time approached for this last C-118 mission; number 3300 was the 1605th's last remaining aircraft and this would be the unit's final flying mission. Their only consolation was in the knowledge that they and old 3300 would be the ones that "propelled" MAC into a new era.

C. R. lets his dreams of Tassels Taylor cloud his normally mediocre judgment and teaches Sam and Blinky a lesson.

Stick with me, Blinky m'lad, and I'll make you famous," cooed the Omnipotent One. "Perhaps you didn't know that the sagacious C. R. himself worked hand in glove with the Lockheed Leaders in working up the very fuel manual you are perusing."

"Yessir, Boss, but the ops center gave me a point seven four step climb flight plan and we've filed for 310 at point seven six seven. We'll just need a little more gas," Blinky apologized.

"Tut, tut, my masterful Magellan, Sergeant Torque will lean those 3350's out to where we're manufacturing petrol." C. R. ceremoniously extracted an Egyptian Oval and inserted same into a selected ebony cigarette holder.

"C'mon, Chief," said Sam lighting his boss's cigarette. "You know the last thing you flew with 3350's was the Super Connie."

"Right you are, Number Two; but 121 or 141, they're both Lockheed. Just giving Blinky a lesson in MATS history," said C. R., blowing a smoke ring toward his navigator's flight plan.

"You know, Skipper, with all this talk about conservation, maybe we should climb to thirty-five grand. It's not above our optimum," offered the long-suffering one.

"Balderdash!" bellowed the Portly Pilot. "What have we here, a mutiny? Think about the time of useful consciousness at higher altitudes. Dancing aloft on laughter-silvered wings is one thing, but getting into that newfangled sweep-on nose hose is something you younger troops might have trouble with. I'm just thinking of you guys. It's an AC's responsibility — we'll grace the airways at flight level 310. Besides, with the higher TAS, I'll shave 30 minutes off Blink's best estimate and be mixing a terrorific 'tini for Tassels before 2300 California time."

C. R. flicked the ashes from his Oval, grabbed the flight plan and did a sharp about-face.

Blinky and Sam fell into step behind their fearless leader.

"Duh-duh, duh-duh, duh-duh, duh-duh . . . METMAN!" C. R. smiled at the forecaster. "Oh, great prognosticator of the unknown, merely advise me that the weather at Nuttin Air Patch is CAFB and we'll waste no more of your valuable time."

"I'm afraid I can't oblige, Sir. Nuttin Metro says it's pretty murky now, and they expect the Lost Angeles smog to settle in about dark. Maybe a 300-foot ceiling and a mile," the dispenser of weather wisdom stated.

"Speak to me not of millibars and centigrade, you young whippersnapper. We came to fly. Neither sleet nor snow nor Hicktown Metro can stop the stalwart Starlifter from streaking straightway to Calipornia." With that C. R. confiscated the weather folder and paraded his crew downstairs to the ops center.

C. R.'s rotund figure filled the window at the ops center. With Sam looking over one of C. R.'s shoulders and Blinky peering under the other arm, the briefer reluctantly advised the crew of the inoperative right air conditioning pack.

"Hurry along, Captain, the C-141 performs admirably on only one pack. Where is your 'can do' attitude?" queried C. R. "We'll take it as is."

A balmy breeze and a high Hawaiian sun greeted the trio as they walked down the ramp toward the terminal. "Ah, yes, the good old days." A reminiscent twinkle appeared in the Great One's eye. "Time was when I could single handedly file, get weather, and be airborne in a matter of microseconds. Now with all the namby-pamby, a troop is lucky to make an on-time."

"Oh, I don't know, Chief. We're still an hour and thirty-five from block. Just time for a sandwich, huh?" ventured Blinky.

"Of course! Nurturing of navigators is also an AC responsibility," pontificated the World's Finest.

Entering the flight-line cafeteria amid the hustle and bustle of long suffering Space A's, C. R. raised his hand as if to demand silence.

"Food and water for my men and horses!" he commanded, going straight to the head of the line. Sam and Blinky followed reticently.

"Greez and Cheez, pleez," C. R. announced and then to Sam, "I'll need an advance of two deflated yankee dollars, Sammy, m'boy."

"Sure, Boss. But an advance on what?"

"C'mon, Sammy, you know I never lose at horses; not tonight at the Tahiti Gritty at Nuttin AFB," the Petulant Pilot replied.

* * *

Sam engaged the altitude hold and began to ease the throttles back as the big bird settled down at flight level 310.

"Hold it, Sammy. Let ole C. R. show you a trick," a sleepy Rotund One offered from the right seat. "Let your Mach build to .79 and ease 'em back to cruise EPR. In '64, I worked with Emil Pratt

C.R. TERROR

and Lucius Whitney designing the very powerplants sustaining our flight. We astutely ascertained that this swept-wing shadow hits the 'plane' at .788342 Mach. Once you surpass that speed, lift over drag coefficient intersects the coriolis and fuel flow lines; hence, higher speed on less fuel!"

Sammy nodded and in a few minutes C. R. drifted away into a paradise of free drinks and long-legged women, unaware that Sam and Blinky had resumed a practical profile of .767 at 310.

Sam signaled Blinky to come up "Hot Mike" so as not to disturb the slumbering skipper.

"How's the fuel look, Blinky?"

"We're in fair shape. I made up a range control chart just in case," Blinky replied. "We're below the MAX line, thanks to our 10 percent reserve, and the ground speed looks good."

"Okay, if fuel gets tight, we'll climb to 350. The boss will probably log first pilot 'Z' to landfall."

* * *

The Idol of the Airlanes smiled in his sleep. Middle Eastern music filled his dreams. Decked out in the latest denim creation from Merlin's of Mildenhall, the Rhinestone Flyboy found himself seated in a luxurious velour love seat in Tassel Taylor's A-frame chalet just a half mile from Lake Sparrowhead.

Martini in hand, the Lothario of the Airlift observed Tassel's homework assignment: advanced belly dancing exercise number six. C. R. surmised that she was progressing satisfactorily toward a bachelorette's degree in the Fan Arts.

As the ethereal episode reached its crescendo, popping eardrums brought C. R. back to the mundane. The rhythmic Middle Eastern music abruptly gave way to a pulsating shudder inside the Starlifter.

"Thunderstorm lights! Climb! Descend! Do a three-sixty and get out of this nympho-cumulus!" bellowed the Manipulator of Wires and Tires.

"What's happening, Sergeant Torque?" a cool Sam asked.

"We're losing the left pack, Sir. I'm trying manual now, but I think it's going," the engineer replied.

"No sweat," asserted the Forgetful Fumbler. "The right pack will carry us safely to the coast."

"Sorry, Sir, don't you remember? We departed Hicktown with the right pack inop." reminded Sam.

"Er, ah, yes, uhmmm" C. R. answered drowsily. "Just a no-notice awareness check, Sammy m'boy. I suggest we all don the sweeps and go 100 percent."

"Yessir, I'll get clearance to descend to 250," said Sam, already on oxygen.

"Navigator; checking in. Mask on and breathing 100 percent," Blinky reported.

"Engineer on and a hundred percent," echoed Sergeant Torque. "The left pack is gone."

"Load's on and a hundred," reported Sergeant Downs. "Everything looks okay in the back."

"Crimenently! Who's been practicing Boy Scout knots here?" C. R. struggled to unravel the jungle of interphone cords, nose hose, FLIP charts, and utility light cord.

By now the cabin pressure differential neared zero as Sammy descended the 141 through 30,000 feet.

C. R.'s pudgy fingers seemed all thumbs and pearls of perspiration glistened on his forehead as he finally got the sweep-on in place. Pressing the lever to "test mask," the light headed leader

felt the surge of mind-clearing oxygen enter his lungs and announced, "All right, men; everybody check in."

Sam signalled that C. R. was not getting through on intercom. The fumble-fingered flyer fiddled with the interphone plug and, finally his reassuring voice once again filled the airways and interphone.

"Mayday! Mayday! L. A., MAC 345 descending to flight level 250. We've experienced an explosive decompression!"

"Sergeant Downs, inspect for battle damage. Sam, get Rescue to run an intercept."

"Take it easy, Boss. Everything's under control. McClellan has relayed our problem to L. A. Blinky and Sergeant Torque are working up a profile at 25 grand," Sam assured. "You okay now? Thought we'd lost you."

"C'mon, Sammy," C. R. stated demurely. "Just wanted you to get some firsthand experience at running a crew in a crisis atmosphere. It'll be invaluable when you upgrade to AC."

"Mmmm . . . right, Boss." Sam was satisfied that things were back to normal.

"Uh, Pilot, navigator."

"Go ahead, Blinky," Sam responded.

"Yeah, uh, with the new fuel flow and ground speed, I calculate about 7,500 pounds remaining over Nuttin AFB; we could go into Lost Angeles or another base close by. If we elect to do that we'll have over 12,000 remaining . . . depending on the weather, it might not be a bad idea," Blinky surmised.

"Hold it! Who's in charge here?" blurted the Ancient Aeronaut. "Decisions such as these are best made solely by the AC. We'll press on to Nuttin. Uh, Sammy, er, any late news on the weather?"

"Yessir, McClellan said about the same as the Hicktown forecaster. At our arrival time they expect 300 and three quarters," Sam responded.

"Super!" C. R. sighed. "I'll weld this dude on the glide slope and we'll still make the bar before closing time!"

* * * * *

"So it's a 300-foot ceiling, hmmm," mused C. R., hand flying the T-tail from the right seat. "Field elevation is about 700 feet, so if we go down to 1,000 feet we can use the Booby Trap Lounge for a good lineup on final."

"But, Sir, there's an 1,800-foot hill almost on final," Blinky warned noting that his altimeter indicated two thousand feet.

"C'mon, Blinky, I know every rock in this valley. Besides, we're inside ten DME and I know your hill is exactly ten miles from the field. Now don't bother the pilots," said C. R., continuing a shallow descent.

"Gee, I don't know," Blinky insisted. "There're other hills out here. What's your radar altimeter say?"

"Yikes!" C. R. blurted. He had forgotten the descent checklist.

Sam turned on the altimeter and the MDA light came in immediately. The needle stopped at 280 feet. At the same time, C. R. strained the Pratt and Whitneys beyond MRT and climbed to intercept the glide slope.

Over the approach lights, C. R. gave control of the aircraft to his faithful follower in the left seat, who, as usual, greased it on the runway.

* * * * *

As the crew walked upstairs to the ops center, Long Suffering Sam allowed as how this episode might have been a "bit" close.

"Nonsense, Sammy." C. R. put his hand on Blinky's shoulder. "These young navigators have got to learn their responsibilities too. Just count this as another lesson from the Terrorific Tomes of Aeronautical Knowledge." C. R. winked at his navigator; Blinky just blinked and felt thankful to be on the ground.

Quick Stoppers

Fowl Night

If you think birds tangle with their manmade counterparts during daylght hours only, here's a surprise. An HH-53 crew took off for what was to be a three-hour night transition mission. The pilots completed three uneventful approaches but during final on the fourth, three birds flew directly into an area illuminated by the helicopters search and landing lights. Attempting to avoid a collision, the instructor pilot took control of the aircraft and banked hard left. One mallard struck the pilot's side window and another impacted the rescue hoist. Following the birdstrike, the helicopter returned to base and landed without further complication.

This is a good reminder for helicopter pilots to use helmet visors — could keep the feathers out of your face.

Max Effort Prang—Almost

Prior to intercepting the glidepath, a C-130 crew lowered the landing gear and extended 50 percent flaps in preparation for a max effort landing. As they continued their approach through hazy conditions, the crew's attention was focused on locating the field, spotting other air traffic, and obtaining landing clearance. Thus occupied, they failed to lower 100 percent flaps as required for the landing.

But sooner or later, even the Herky Bird will complain. As the C-130 reached the touchdown zone, the pilot flared, but the plane kept sinking. Detecting the unarrested plummet toward the runway, the pilot poured the coal to the turboprops, pulled back on the yoke and waited.

Crunch! The hapless Hercules touched down tail first and bounced onto the main gear before stopping on the runway. Fortunately, damage was confined to the tail skid and a couple of bruised egos in the cockpit.

Where's the Butt Can?

Following a personnel drop, the C-130 took up a course for home base. Back in the main cabin, the loadmasters derigged parachute equipment and policed up the tangled mess. Among the debris scooped up from the cabin floor and emptied into trash containers were several cigarette butts.

Following the mission, the crew chief began a post flight inspection. As he entered the main cabin, he spotted smoke rising from a trash container near the aft ramp. Racing out of the aircraft, he shut down the power cart and alerted another NCO. Together they returned to the aircraft and extinguished the burning trash container. Although examination of the contents proved inconclusive as to the source of ignition, firemen suspected that a cigarette butt had ignited debris in the trash container.

Somebody Is Awfully Quiet

During preflight, the crew discovered a scraped right wingtip and slat on their T-39. They reported their findings but investigators could uncover no evidence indicating abnormal incidents during landing operations. The aircraft had been involved in a hydroplaning incident at another base, but safety personnel there found nothing to suggest a wingtip scrape.

A T-39 systems engineer later indicated that, from a static position, a 12-degree bank angle will cause the wingtip to contact the runway and that it may be possible for a pilot to exceed this angle and strike the runway without realizing that a scrape had occurred.

Just Like the Book Says

While climbing to 41,000 feet, a T-39 entered turbulence at 40,000 feet, the severity of which caused the airspeed to fluctuate between 170 and 220 knots. Seconds later the left engine flamed out. The pilot attempted an immediate airstart but the engine failed to respond. He shut down the engine and received clearance to descend to 25,000 where he restarted it. The flight continued to destination with no further problems.

The T-39 Dash One provides an easy-to-understand explanation of the problem: "Above 35,000 feet altitude, engine flameout may be encountered at indicated airspeeds below 180 IAS, because of fuel control/engine operational characteristics. In addition, above 35,000 feet, rapid throttle movements at any airspeed may cause engine flameout.

"Above 35,000 feet altitude, maintain at least 180 IAS; do not make rapid throttle movements; and adjust one throttle at a time to preclude the possibility of simultaneous flameout of both engines."

The following "CAUTION" is also spelled out in section three:

"For flights above 29,000 feet, a relight by this procedure (immediate restart) is unlikely and an engine fire is probable."

Perhaps the pilot was lucky at that.

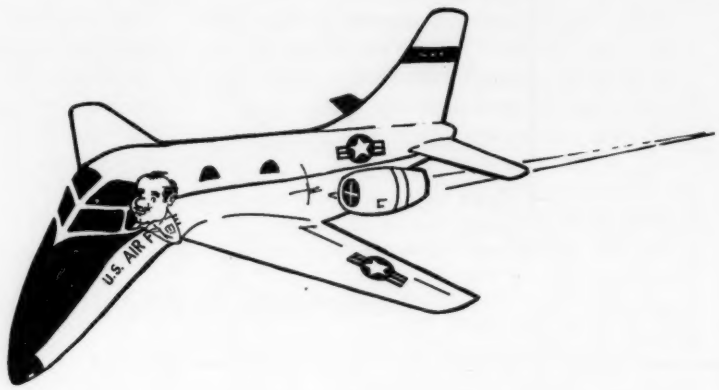
QS

The Old Nose Dive Trick

The following communication (which didn't quite communicate) caused a flurry of excitement when it was transmitted over a highway patrol teletype after an aircraft had reported landing gear problems.

"Fire department is responding to a report of an airplane at the municipal airport. Airplane is unable to get landing gear down. May have to nose dive. More will follow."

Wonder what kind of message would have been transmitted had the pilot reported he had "lost an engine."



Good News—Bad News

First the good news. A super alert C-141 scanner probably saved himself, his crewmates, and their C-141 from an accident — or worse.

As the Starlifter cruised over the Pacific at 39,000 feet, the scanner was inspecting the pressure door and ramp latching mechanisms when he noticed a latch which was unusually tight, a condition that had not existed during checks at 10,000 and 20,000 feet. The scanner wisely alerted the aircraft commander, who directed the flight engineer to raise cabin altitude to 10,000 feet and requested descent clearance to FL 310. Center could not approve the request, so the AC declared an emergency and descended anyway. The scanner reported that the tight latch had loosened, but discovered four other hydraulic locks that looked as if they weren't completely locked.

The C-141 reversed course and continued its descent to 9,000 feet, maintaining a 10,000-foot cabin altitude throughout most of the descent. An uneventful approach and landing terminated the flight.

Now the bad news. Post flight investigation disclosed several glaring discrepancies. A long auxiliary latch had been installed in a position calling for a shorter one, and vice versa, thus explaining the unusual stress on the shorter latch at altitude. Door alignment marks and alignment decals were also in error. Further checks of the aft door system disclosed numerous discrepancies with a variety of fittings, rigging, and hardware.

"Quality Control" is more than a shingle conveniently placed atop a doorway. It should ensure tech data compliance. Less than optimum quality control can destroy an aircraft and its crew as swiftly as a time bomb or surface-to-air missile.

after deadline . . .

STROBES, AGAIN -- In our August issue we wrote words and music about strobe lights and possible use of MAC aircraft, vis-à-vis mid air collision avoidance. The AF Inspector General's office has told us that the words about some possible adverse psychological effects associated with strobes did NOT come from that agency. In any event, the matter has been resolved and strobes are on the way. Rotary wingers may see them in '76; fixed wingers shortly thereafter.

ARE YOU GETTING THE MAC FLYER? -- A recent straw poll conducted by TMF staffers indicates that some of you fearless aeronauts don't get the benefit of our words of wit and wisdom. No, you aren't authorized your own personal copy, but we figure one copy of the mag per four or five fliers will give everyone time to peruse it. If you're not getting this kind of service, pound (k'thud) on your Unit Safety Officer's desk and ask, "Where's my MAC FLYER?"

PREVUE OF COMING ATTRACTIONS -- Our Christmas issue is shaping up. We'll have a firsthand account of C-5 aerial refueling and a seasonal story in which a couple of tattered letters tell a tale of a Christmas past that had a profound effect on a young AC's Christmas-yet-to-come. Also, be sure and read "Denial," the Flying Safety Writing Contest Honorable Mention Story.

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Touch and Go

AND IF YOU KISS ME, I TURN INTO A HANDSOME PRINCE. (R-RIBBITT)